

A photograph of the Space Shuttle Columbia during its ascent. The shuttle is white with a large orange external tank and white solid rocket boosters. It is launching from the launch pad, with a massive plume of white smoke and fire at its base. The shuttle is angled upwards towards the top right of the frame. The sky is a clear blue. The word "USA" is visible on the side of the orbiter. The launch pad service structure is visible to the left of the shuttle.

NASA

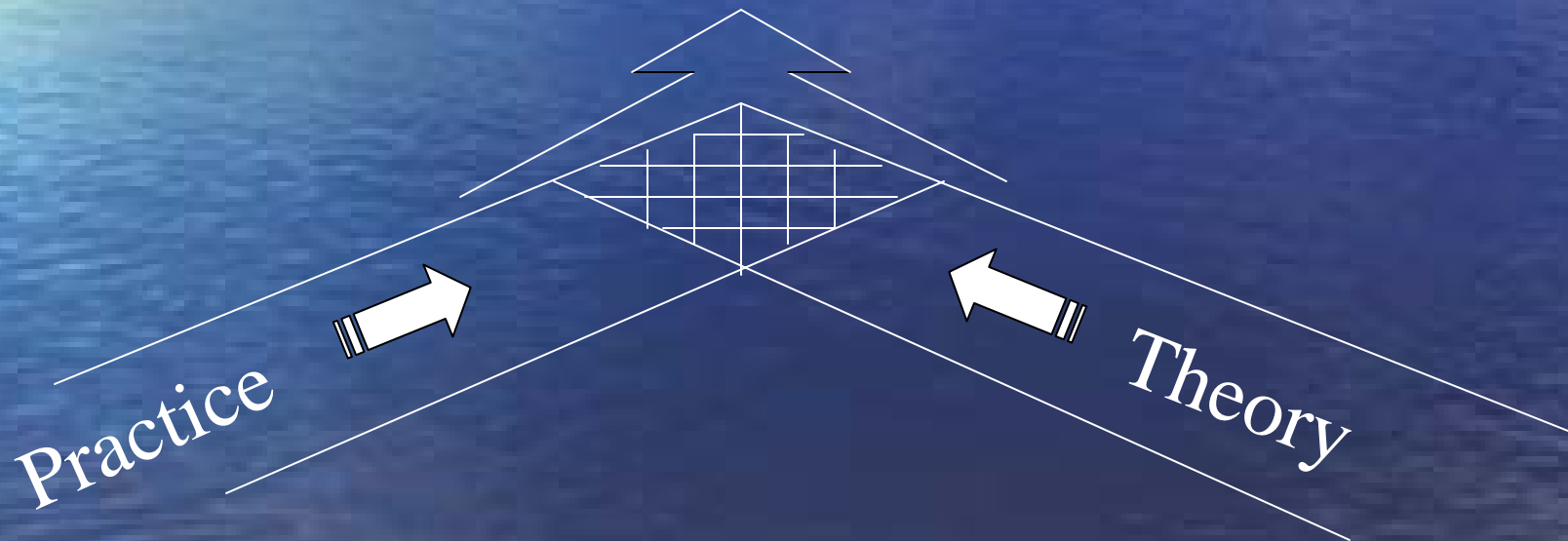
Project Challenge Conference: Knowledge Sharing

Dr. Jerry Mulenburg, PMP

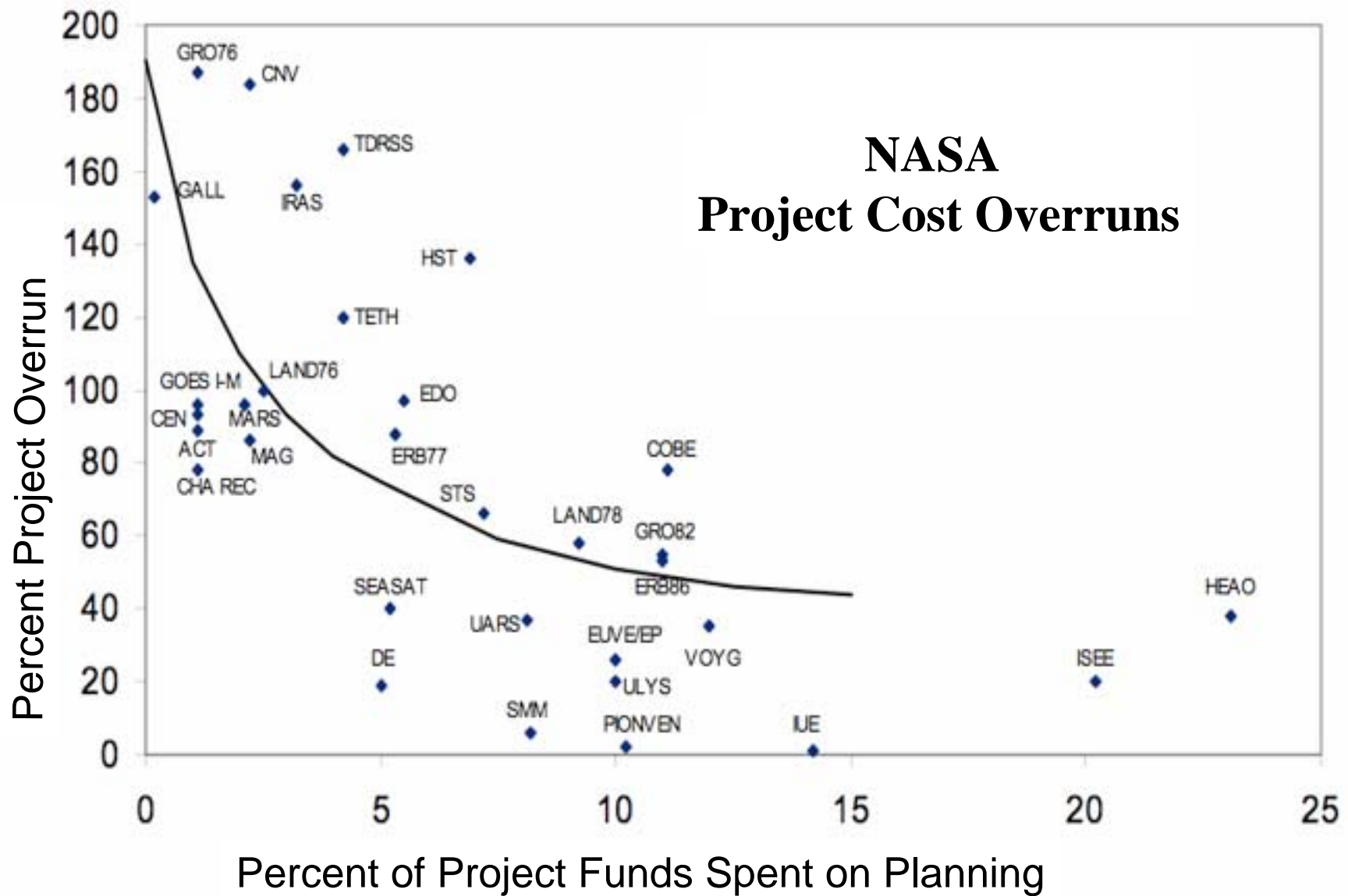
February 6-7 2007

PROJECT MANAGEMENT AT THE CROSSROADS

Some Considerations for the Future



NASA Project Cost Overruns



What is a Project?

Webster : *project; something that is contemplated, devised, or planned*

PMI PMBOK - A temporary endeavor undertaken to create a unique product, service, or result.

NASA 7120.5C - A specific investment identified in a Program Plan having defined goals, objectives, requirements, life-cycle cost, a beginning, and an end.

PRINCE 2 - A project defines what we do, (whenever we want to do something, go somewhere, build something)

What is Project Management?

Webster

manage: to bring about, or succeed in accomplishing, sometimes despite difficulty or hardship

PMI PMBOK

- The application of knowledge, skills, tools, and techniques to project activities to meet project requirements.

NASA 7120.5C

- *Formulation, Approval, Implementation, Evaluation*

PRINCE 2

- Project management is working out the best way to do a project; a logical, organised way, following defined steps.

THE EVOLUTION OF PROJECT MANAGEMENT

ANCIENT TIMES – The birth of project management

7 Wonders of the World, Stone Henge, Great Wall of China, etc.

HISTORIC TIMES

Transcontinental Railroad, Suez Canal, Trans-Atlantic Cable, etc.

MODERN TIMES

Manhattan Project, Marshall Plan, Apollo, Space Lab, etc.

CURRENT TIMES

MIR, Shuttle, ISS, Mars Rovers, Hubble, Gravity Probe B, etc.

FUTURE TIME

Humans back to the Moon, on to Mars, non-Fossil Fuel Transportation, Space Elevators, etc.

THE PROGRESSION OF PROJECT MANAGEMENT

ANCIENT TIMES – Ad Hoc, professional, isolated

HISTORIC TIMES – Early 1900s, practice development

Taylor's Scientific Management (one-best-way),
Gilbreths, Gantt, Fayol,...

MODERN TIMES – Mid 1900s, discipline development

Cold War projects, PERT-Polaris, Hawthorne Experiments,
NASA, Herzberg, Maslow, Drucker,...

CURRENT TIMES – Late 1900's, professional development

Project Management Software, Project Management Institute,
NASA, PRINCE 2, Agile, Extreme, SCRUM, etc.

FUTURE TIME – 2000s to ...???????

Is Project Management, as we know it, obsolete?

Project Management

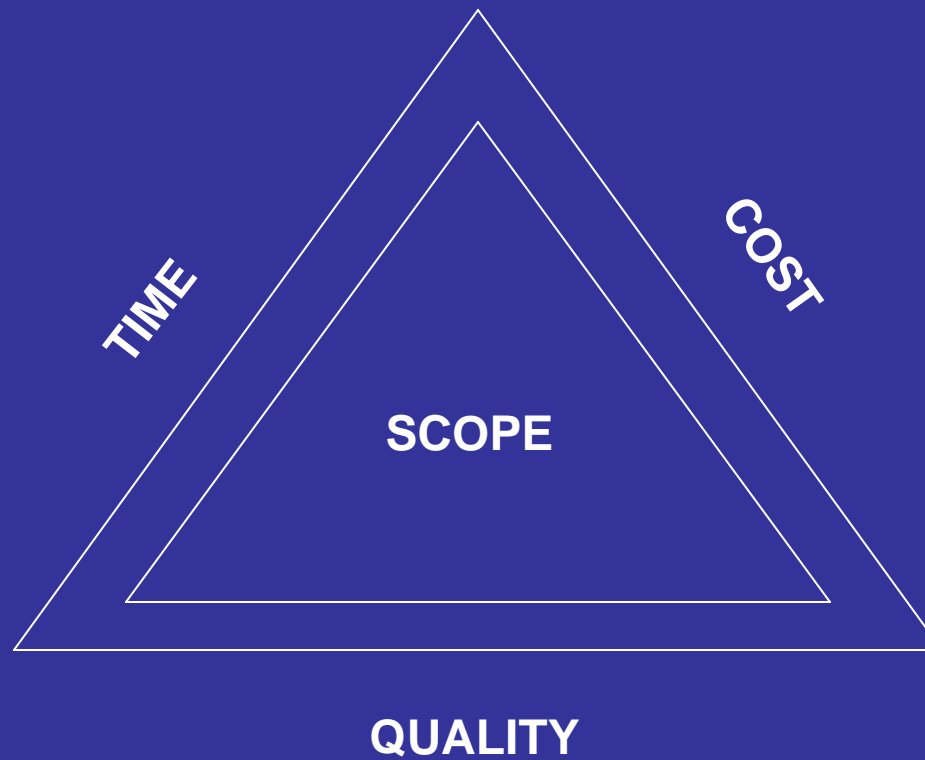
Profession?

Discipline?

Practice?

**Do we need to “reinvent”
Project Management?**

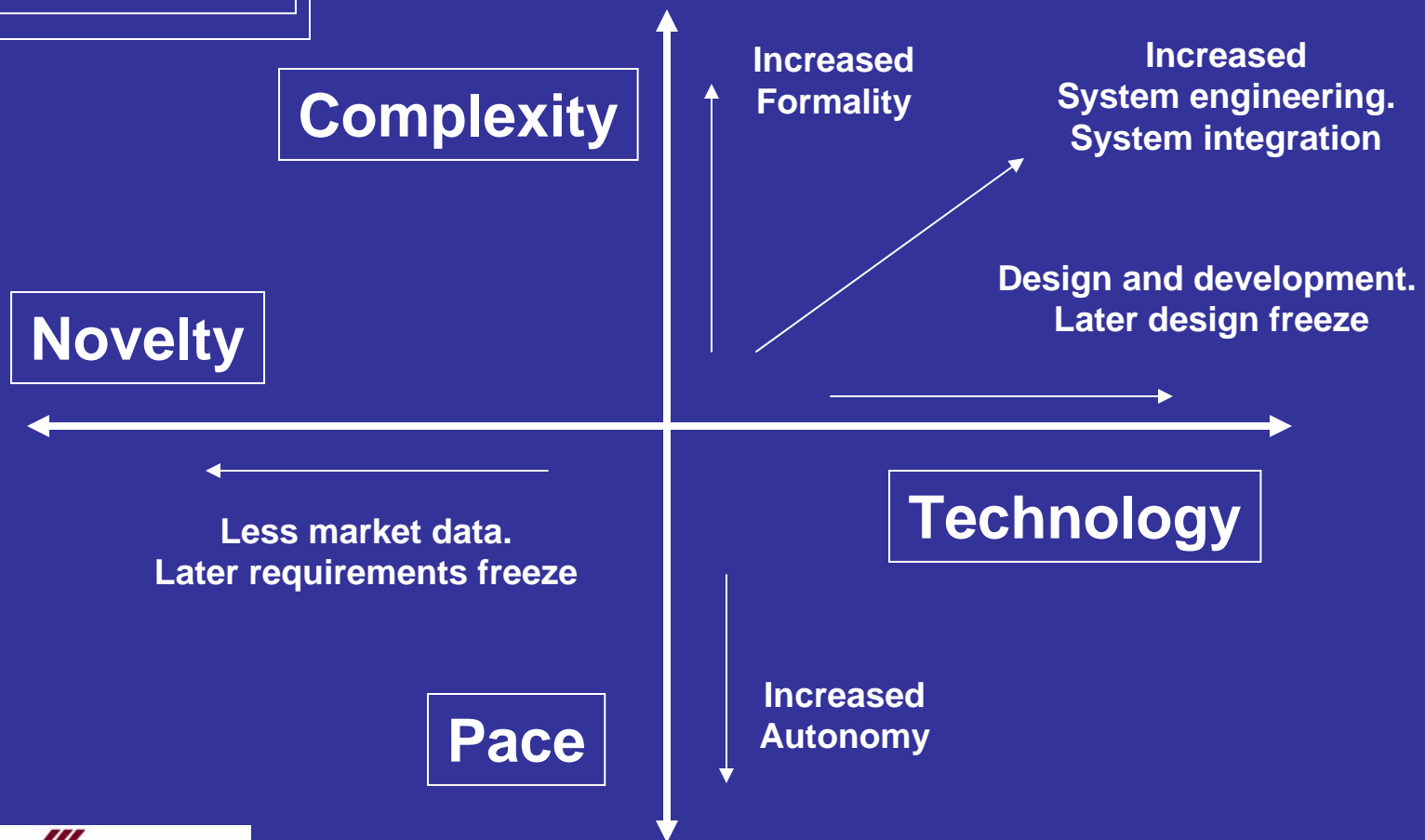
TRIPLE CONSTRAINT



Impact of Project Type on Project Management

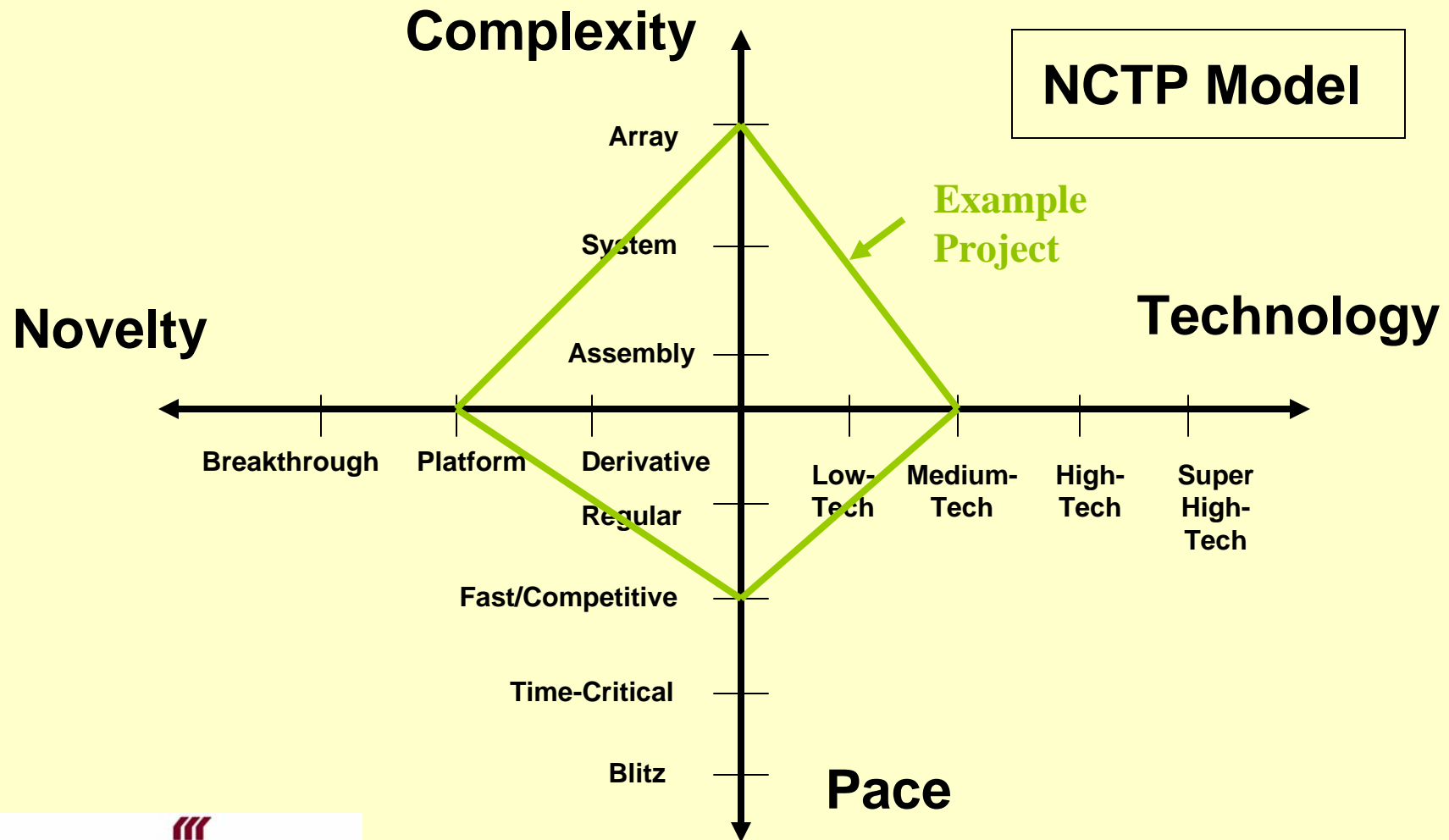
(Aaron Shenhar, Stevens Institute of Technology)

NCTP Model

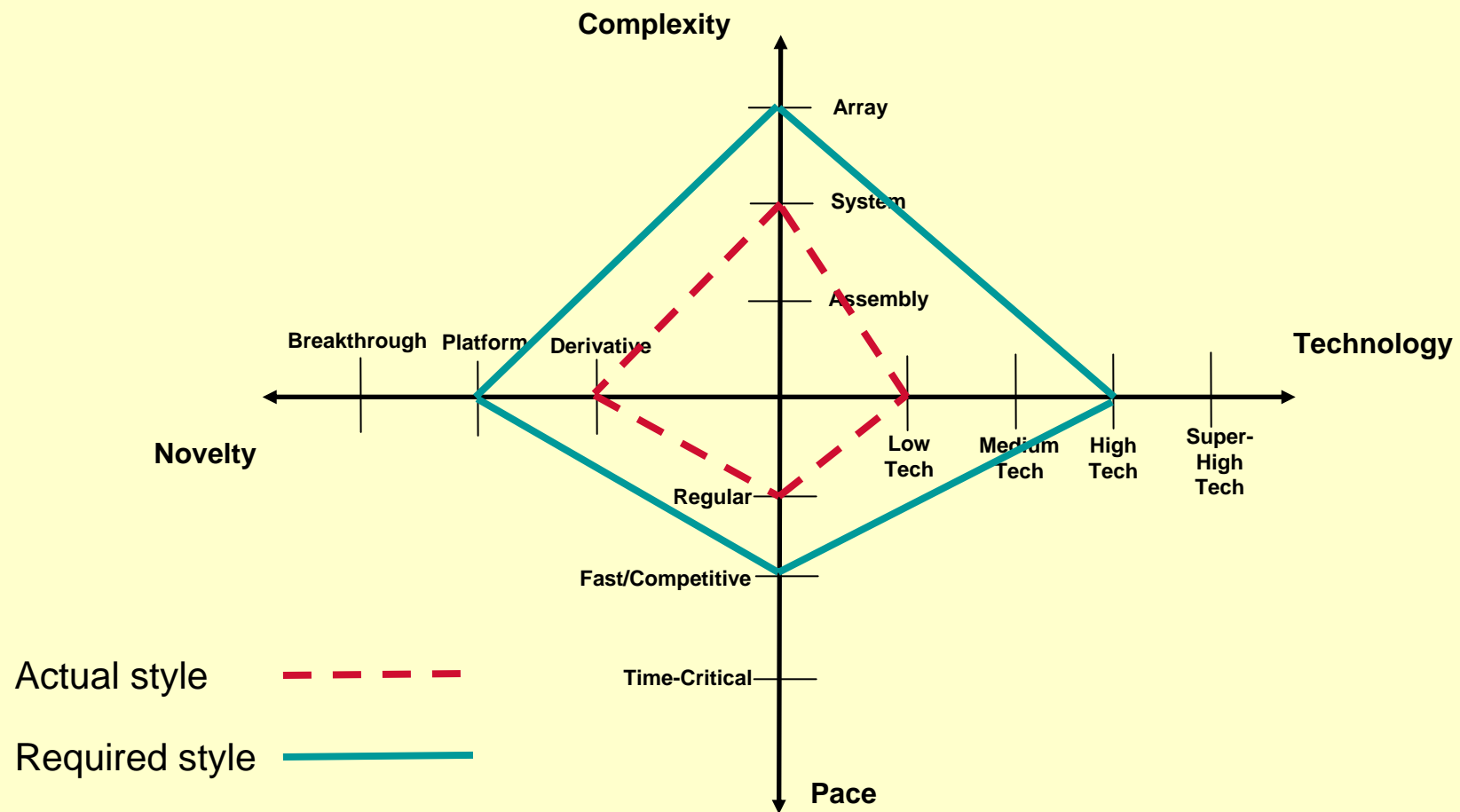


The Project Framework: Distinguishing by Project Type

(Aaron Shenhar, Stevens Institute of Technology)

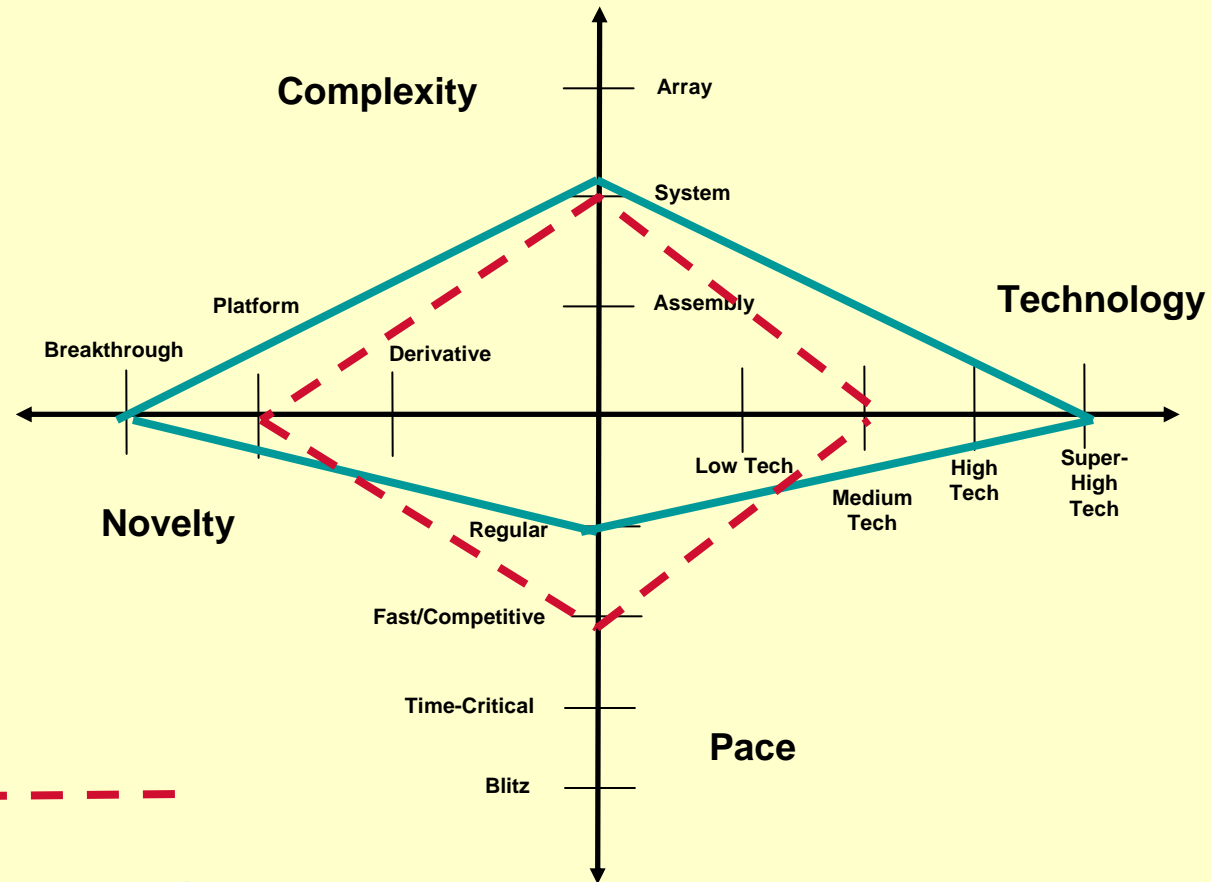
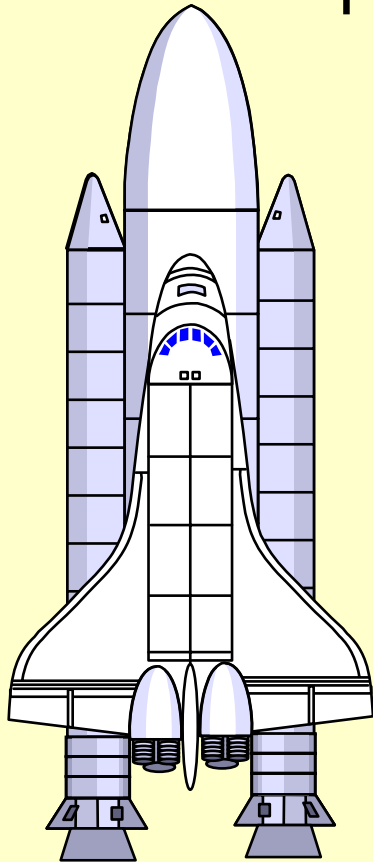


Denver Airport



The NCTP Space Shuttle Analysis

(Aaron Shenhar, Stevens Institute of Technology)

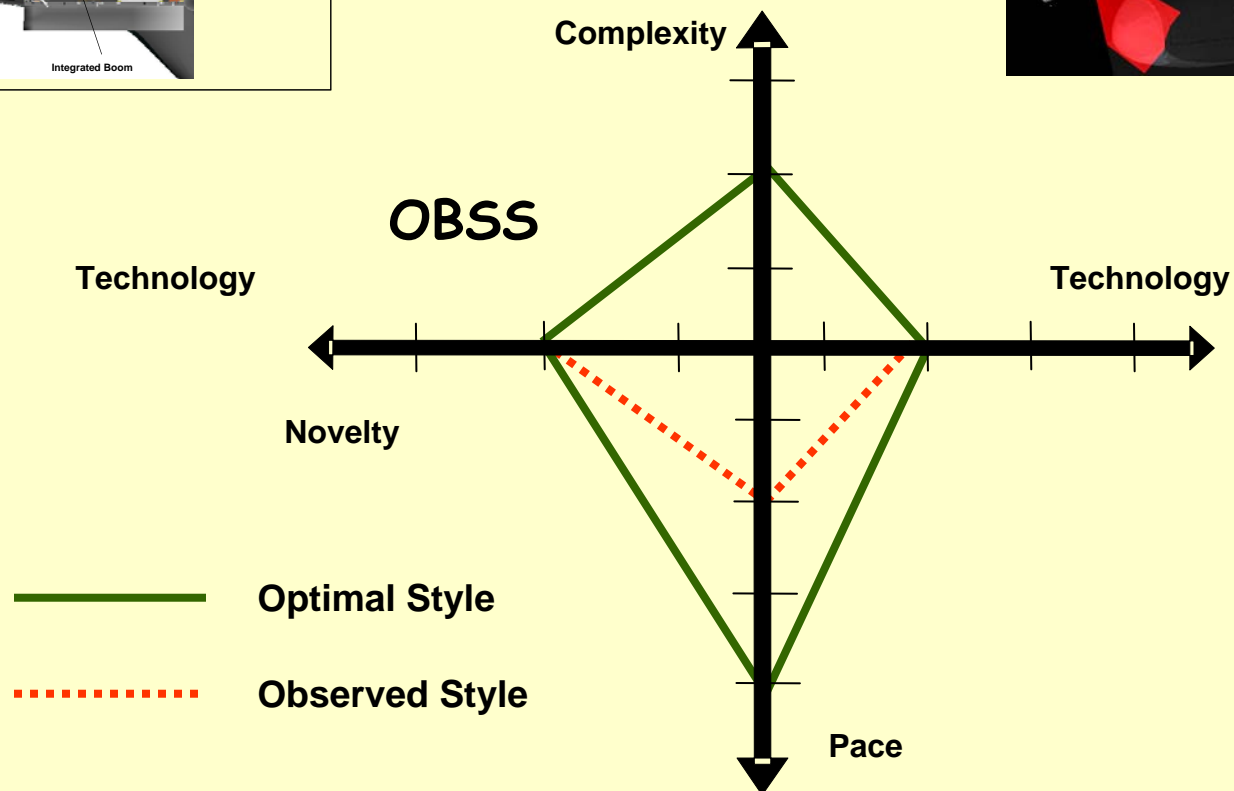
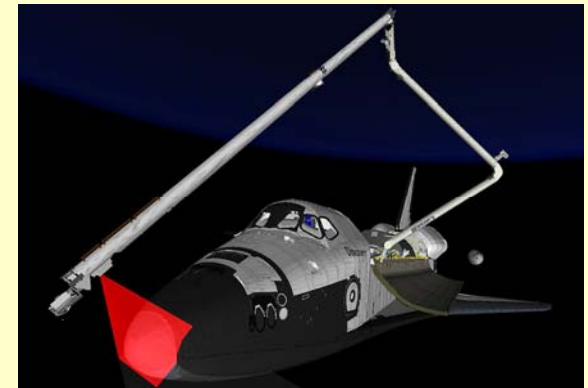
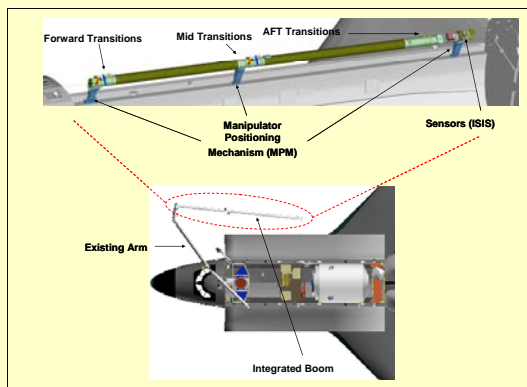


Actual style



Required style





Obiter Boom Sensor System

Limitations of Project Management Today

What should a theory of Project Management be based on?



Some thoughts about a Theory of Project Management

What is a theory?

How do you develop a theory?

How do you apply theory to Project Management?

C

Can we Bridge the Theory Gap?

General System's Theory

(Ludwig von Bertalanffy)

A Framework for Project Management

Two key aspects of Project Management

Projects are complex, and ever changing

Humans are complex, and variable

Two key aspects of the *Systems* approach

Descriptive:

Focus is on an integrated approach to project *definition*

Integration is achieved through defining a hierarchy of objectives

of the parts, as they interface with one another, and their contributions to the objectives of the entire entity

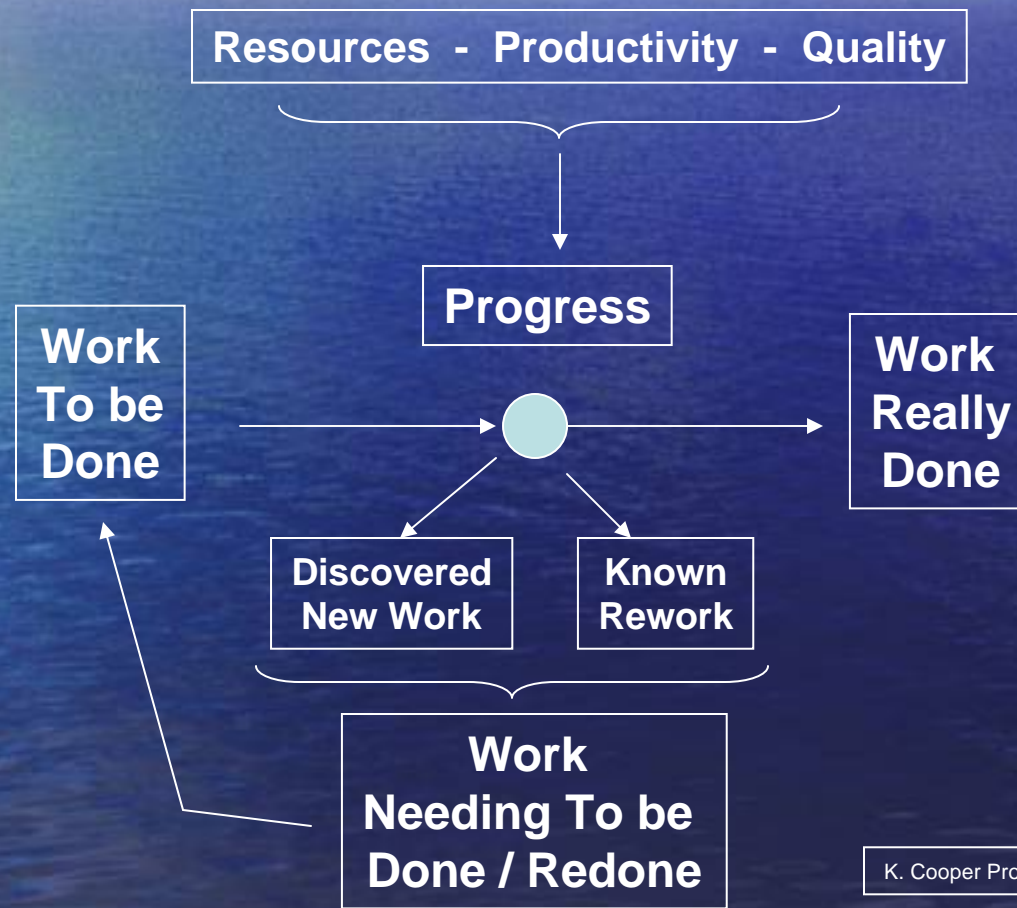
Prescriptive:

Focus is on the design and definition of *system objectives*, mix

of outputs, and the manner of processing including analysis, problem solving, and change that is corrective action oriented

Applying Systems Theory to Project Management

Systems Dynamics Project Management Rework Cycle



K. Cooper Project Management Hnbk, 1998,



Continuing the Quest

Back to the Future

